

1 **CLAIMS**

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3 *AV* 1. A method of searching streaming media presentations, the method  
4 comprising:

5 receiving a search request including search criteria;  
6 determining a temporal location in a streaming media presentation that  
7 corresponds to data of the media presentation that matches the search criteria; and  
8 returning an indication of the temporal location to a source of the request.

9 2. A method as recited in claim 1, further comprising saving a media  
10 data stream of the media presentation locally at a client computer if data in the  
11 media presentation matches the search criteria, otherwise not saving the media  
12 data stream locally at the client computer.

13 3. A method as recited in claim 1, wherein the determining comprises  
14 checking, for each of a plurality of individual media streams of the media  
15 presentation, whether data of the media stream matches the search criteria.

16 4. A method as recited in claim 1, wherein the determining comprises  
17 comparing data of media streams corresponding to a plurality of different media  
18 presentations to the search criteria.

19 5. A method as recited in claim 1, wherein the temporal location  
20 comprises a presentation time of the media presentation.  
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1       6. A method as recited in claim 1, wherein the media presentation  
2 comprises a composite media stream including a plurality of individual media  
3 streams.

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5       7. A method as recited in claim 1, further comprising:  
6 seeking to the temporal location; and  
7 streaming of the media presentation to a client based on the temporal  
8 location.

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10       8. A method as recited in claim 7, wherein the streaming comprises  
11 streaming the media presentation to the client beginning at the temporal location.

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13       9. A method as recited in claim 1, wherein the returning comprises  
14 displaying the indication to a user.

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16       10. A method as recited in claim 1, wherein the receiving comprises  
17 receiving the request from a client computer via a network.

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19       11. A method as recited in claim 1, wherein the receiving comprises  
20 receiving the request, at an index server, from a media server via a network.

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22       12. A method as recited in claim 1, wherein the determining comprises:  
23 accessing an index corresponding to an individual media data stream of the  
24 media presentation;  
25 checking whether the search criteria matches data in the index; and

1 if the search criteria matches data in the index, then identifying a  
2 presentation time of the media presentation at which the search criteria are  
3 satisfied.

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5 13. A method as recited in claim 1, wherein the search criteria  
6 comprises user-specified criteria.

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8 14. A method as recited in claim 1, wherein the returning comprises  
9 sending the indication from an index server to a media server that is a source of at  
10 least part of the media presentation.

11  
12 15. One or more computer-readable memories containing a computer  
13 program that is executable by a processor to perform the method recited in claim  
14 1.

15  
16 16. An apparatus comprising:  
17 a memory device to store a plurality of multimedia data streams  
18 corresponding to a streaming multimedia presentation; and  
19 a search engine, coupled to the memory device, to,  
20 receive a search request corresponding to the multimedia  
21 presentation,  
22 determine whether any of the multimedia data streams  
23 corresponding to the multimedia presentation satisfy search criteria  
24 corresponding to the search request, and  
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1           return an indication of whether any of the multimedia data streams  
2           satisfy the search criteria.

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4           **17.**    An apparatus as recited in claim 16, wherein the memory device  
5           comprises a random access memory.

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7           **18.**    An apparatus as recited in claim 16, wherein the apparatus  
8           comprises a multimedia server and the search engine is to receive the search  
9           request from a client computer via a network.

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11          **19.**    An apparatus as recited in claim 16, wherein the apparatus  
12          comprises a multimedia server and the search engine is to determine whether any  
13          of the multimedia data streams satisfy the search criteria by forwarding the search  
14          criteria to an index server.

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16          **20.**    An apparatus as recited in claim 16, wherein the apparatus  
17          comprises a client computer and the search engine is to receive a search request  
18          from a user of the client computer.

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20          **21.**    An apparatus as recited in claim 16, wherein the apparatus is to  
21          determine whether any of the multimedia data streams satisfy the search criteria by  
22          comparing, for each of the multimedia data streams, the search criteria to index  
23          data for the multimedia data stream.

1       **22.**    An apparatus as recited in claim 16, wherein the apparatus is to  
2 determine whether any of the multimedia data streams satisfy the search criteria by  
3 comparing, for each of the multimedia data streams, the search criteria to the data  
4 of the multimedia data stream.

5  
6       **23.**    An apparatus as recited in claim 16, wherein:  
7       the apparatus further comprises a streaming component to manage  
8 streaming of the multimedia data streams to a client computer;  
9       the search engine is to identify a temporal location of the multimedia data  
10 streams that satisfies the search criteria and forward the temporal location to the  
11 streaming component; and  
12       the streaming component is to stream the multimedia data streams to the  
13 client computer at a beginning temporal location based on the identified temporal  
14 location.

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16       **24.**    An apparatus as recited in claim 16, wherein the apparatus further  
17 comprises a data saving component to receive the multimedia data streams from a  
18 multimedia server and store the multimedia data streams in the memory device.

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20       **25.**    A system comprising:  
21       a client computer, coupled to a network, to receive streaming data via the  
22 network; and  
23       a multimedia server, coupled to the network, to stream the streaming data to  
24 the client computer, the multimedia server including one or more index files  
25

1 corresponding to the streaming data and a search engine to check whether data in  
2 the index files matches search criteria received from the client computer.

3  
4 26. A system as recited in claim 25, wherein the client computer  
5 comprises a demultiplexer to separate the streaming data into individual media  
6 streams, and a data saver to save the individual media streams at the client  
7 computer.

8  
9 27. A system comprising:  
10 a client computer, coupled to a network, to receive streaming data via the  
11 network;  
12 a multimedia server, coupled to the network, to stream the streaming data to  
13 the client computer; and  
14 an index server, coupled to the network, to store index files corresponding  
15 to the streaming data and to check, upon receipt of a search request, whether any  
16 portion of the streaming data matches search criteria of the search request based at  
17 least in part on the contents of the index files.

18  
19 28. A method comprising:  
20 identifying a set of search criteria to be compared to data of a streaming  
21 media presentation;  
22 transmitting the set of search criteria to a server; and  
23 receiving an indication of whether the search criteria match any portion of  
24 the streaming media presentation.  
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1        29. A method as recited in claim 28, wherein the receiving an indication  
2 comprises receiving the streaming media presentation beginning at a temporal  
3 location corresponding to a portion of the streaming media presentation that  
4 matches the search criteria.

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6        30. A method as recited in claim 28, wherein the transmitting comprises  
7 transmitting the set of search criteria to an index server.

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9        31. A method as recited in claim 28, further comprising storing the  
10 streaming media presentation locally.

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12        32. One or more computer-readable memories containing a computer  
13 program that is executable by a processor to perform the method recited in claim  
14 28.

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16        33. A method comprising:  
17 receiving a plurality of media streams as streaming data from a multimedia  
18 server;  
19 storing the plurality of media streams locally; and  
20 generating a markup document describing how the plurality of media  
21 streams are to be presented and referencing the locally stored plurality of media  
22 streams.

1       **34.**    A method as recited in claim 33, wherein the receiving the plurality  
2 of media streams comprises receiving the plurality of streams as a composite  
3 media stream.

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5       **35.**    A method as recited in claim 33, wherein the generating comprises:  
6 receiving, from the multimedia server, an original markup document  
7 referencing the plurality of media streams stored at the multimedia server; and  
8 modifying the original markup document to reference the plurality of  
9 locally stored media streams rather than the plurality of media streams stored at  
10 the multimedia server.

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12       **36.**    A method as recited in claim 33, further comprising:  
13 receiving a search request with search criteria; and  
14 accessing the locally stored plurality of media streams to determine whether  
15 the search criteria is satisfied by a portion of the plurality of media streams.

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17       **37.**    A method as recited in claim 33, further comprising:  
18 receiving a plurality of index files corresponding to the plurality of media  
19 streams; and  
20 storing the plurality of index files locally.

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22       **38.**    One or more computer-readable memories containing a computer  
23 program that is executable by a processor to perform the method recited in claim  
24 33.



1        ~~39.~~ One or more computer-readable media having stored thereon a  
2 computer program that, when executed by one or more processors, causes the one  
3 or more processors to perform functions including:

4            receiving a markup document, from a multimedia server, that references a  
5 plurality of multimedia data streams at one or more remote media servers, and that  
6 identifies how the plurality of multimedia data streams are to be presented at a  
7 client computer;

8            receiving the plurality of multimedia data streams from the one or more  
9 remote media servers;

10           storing the plurality of multimedia data streams locally at the client  
11 computer;

12           modifying the markup document to reference the plurality of locally stored  
13 multimedia data streams rather than the plurality of remotely stored multimedia  
14 data streams; and

15           storing the modified markup document.

16  
17        40. One or more computer-readable media as recited in claim 39,  
18 wherein the computer program further causes the one or more processors to  
19 perform functions including subsequently using the modified markup document to  
20 present the plurality of locally stored multimedia data streams at the client  
21 computer.

1       **41.** One or more computer-readable media as recited in claim 39,  
2 wherein the computer program further causes the one or more processors to  
3 perform functions including combining the plurality of locally stored multimedia  
4 data streams and the modified markup document into a common location.

5  
6       **42.** One or more computer-readable media as recited in claim 39,  
7 wherein the computer program further causes the one or more processors to  
8 perform functions including:

9       receiving a plurality of index files corresponding to the plurality of  
10 multimedia data streams; and

11       storing the plurality of index files locally at the client computer.

12  
13       **43.** One or more computer-readable media as recited in claim 42,  
14 wherein the computer program further causes the one or more processors to  
15 perform functions including:

16       receiving a search request from a user;

17       checking the plurality of locally stored index files to determine whether any  
18 portion of the locally stored multimedia data streams correspond to the search  
19 request; and

20       indicating to the user whether any portion of the locally stored multimedia  
21 data streams correspond to the search request.

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